

(11) EP 0 947 179 A3

(12)

#### **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 22.12.1999 Bulletin 1999/51

(51) Int Cl.6: A61F 2/06

(43) Date of publication A2: 06.10.1999 Bulletin 1999/40

(21) Application number: 99302433.0

(22) Date of filing: 29.03.1999

(84) Designated Contracting States:

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU

MC NL PT SE

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: 30.03.1998 US 50347

(71) Applicant: Cordis Corporation Miami FL 33126 (US) (72) Inventors:

Solovay, Kenneth S.
 Fort Lauderdale, Florida 33331 (US)

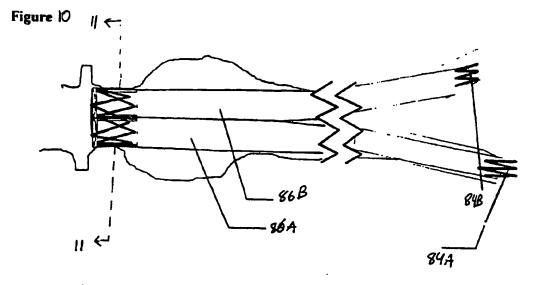
Letendre, Robert P.
 Hialeah, Florida 33015 (US)

(74) Representative: Mercer, Christopher Paul Carpmaels & Ransford 43, Bloomsbury Square London WC1A 2RA (GB)

### (54) An aortic graft having a precursor gasket for repairing an abdominal aortic aneurysm

(57) In accordance with the present invention there is provided a pre-cursor stent for positioning within the infrarenal neck, between an abdominal aortic aneurysm and the renal arteries, of a patient to assist in repairing the abdominal aortic aneurysm. The stent designed to be coupled to a graft for directing blood flow. The graft has a distal end for positioning distal to the aneurysm, and a proximal end for positioning proximal to the aneurysm. The precursor stent includes a substantially cylindrical expandable member having a proximal end, a dis-

tal end and an interior. The stent further includes a compressible gasket member located within the interior of the expandable member and attached thereto. The compressible member is substantially impervious to water when in a compressed state. In addition, the stent has a means, within the compressible member, for coupling the graft to the gasket member. This is so the coupled device can direct blood flow therethrough, with the gasket member substantially preventing blood from flowing into the aneurysm.



EP 0 947 179 A3



# **EUROPEAN SEARCH REPORT**

Application Number EP 99 30 2433

Category	Citation of document with in	dication, where appropriate,	Relevant	CLASSIFICATION OF THE
Category	of relevant pass		to claim	APPLICATION (Int.Cl.6)
X	(US); EVANS MICHAEL 18 September 1997 ( * figures 19,22,25 * page 20, line 19 * page 21, line 7 - * page 22, line 28 * page 33, line 1 -	* - line 35 * line 26 * - line 34 * page 34, line 20 * - page 38, line 25 *	1-43	A61F2/06
X	WO 98 07389 A (PAVC (US); UCHIDA BARRY FREDERIC) 26 Februa * figure 1 *		12, 18-20, 22-29, 31-38, 40-43	
	* page 7, line 7 -	line 26 *	1	
,	* page 8, line 16 -	line 25 *	<b> </b> ,	
A I			1	TECHNICAL FIELDS
X	FR 2 743 293 A (DEN 11 July 1997 (1997- * figures 2-5 * * page 3, line 8 -	07-11)	1,12	SEARCHED (Int.CLS)
A	Page 5, Time 0	F-30 0; 11110 ED 1	26,36	)
		-/	1	
	The present search report has	been drawn up for all claims		
<del></del>	Place of search	Date of completion of the search	<del>'</del>	Examiner
	THE HAGUE	3 November 1999	Mar	y, C
X : part Y : part doc A : tect O : nor	CATEGORY OF CITED DOCUMENTS tilcularly relevant if taken alone incularly relevant if combined with anot urment of the same category hnological background hrmdiste disclosure writing disclosure		ished on, or	

POFORM 1503 0



# **EUROPEAN SEARCH REPORT**

Application Number EP 99 30 2433

·	DOCUMENTS CONSID	ERED TO BE RELEVANT			
Category	Citation of document with i of relevant pass	ndication, where appropriate, sages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.6)	
Р,Х	EP 0 880 948 A (SCH 2 December 1998 (19		1-20, 22-29, 31-38, 40-43		
	* column 8, line 27 * column 10, line 2	6 - column 4, line 20 * 7 - column 9, line 20 * 8 - line 19 * 8 - column 11, line 12			
Υ			6,21,30, 39		
Y	16 July 1997 (1997- * figures 7,19,22 * * column 10, line 8 * column 12, line 2	: B - line 34 * PO - line 30 *	6,21,30, 39		
	* column 14, line 5 * * column 20, line 2	69 - column 15, line 18 29 - line 51 *		TECHNICAL FIELDS SEARCHED (Int.Cl.6)	
•					
	The present search report has	been drawn up for all claims	†		
	Place of search	Date of completion of the search	<u> </u>	Examiner	
	THE HAGUE	3 November 1999	Mar	y, C	
CATEGORY OF CITED DOCUMENTS  X: particularly relevant it taken alone Y: particularly relevant if combined with another document of the same category A: technological background		E : earlier patent do after the filing da ther D : document cited f L : document cited f	T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filling date D: document cited in the application L: document died for other reasons		

#### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 99 30 2433

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-11-1999

WO 9733532	cation ite
WO 9807389 A 26-02-1998	)-1998
EP 0925043 A 30-06-  FR 2743293 A 11-07-1997 EP 0873093 A 28-10- M0 9725001 A 17-07-  EP 0880948 A 02-12-1998 CA 2235794 A 27-11- EP 0880949 A 02-12- JP 10328215 A 15-12- JP 10328215 A 15-12- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521736 U 27-08- DE 2952113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381598 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- DE 050508 A 01-09- US 5683086 A 02-12- US 5776180 A 07-07- US 5683450 A 04-11- US 5683450 A 04-11- US 5916263 A 29-06-	5-1999
FR 2743293 A 11-07-1997 EP 0873093 A 28-10- M0 9725001 A 17-07- EP 0880948 A 02-12-1998 CA 2235794 A 27-11- EP 0880949 A 02-12- JP 10328215 A 15-12- JP 10328215 A 15-12- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29521776 U 27-08- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0783874 A 16-07- EP 0783874 A 16-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5693086 A 02-12- US 5776180 A 07-07- US 5693086 A 02-12- US 5778724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-1998
W0 9725001 A 17-07-	5-1999
EP 0880948 A 02-12-1998 CA 2235794 A 27-11- CA 2235911 A 27-11- EP 0880949 A 02-12- JP 10328215 A 15-12- US 5906641 A 25-05- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29521776 U 27-08- DE 2952113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 6381598 A 18-06- AU 6381598 A 18-06- CA 218292 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- US 5716365 A 10-02- US 5716365 A 10-02- US 5716365 A 10-02- US 5800508 A 01-09- US 571680 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
CA 2235911 A 27-11- EP 0880949 A 02-12- JP 10328215 A 15-12- JP 10328216 A 15-12- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0782841 A 09-07- EP 0782841 A 09-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- AU 6381698 A 18-06- AU 6381698 A 18-06- AU 6381698 A 18-06- US 5759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	/-1997
EP 0880949 A 02-12- JP 10328215 A 15-12- JP 10328216 A 15-12- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381598 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5716724 A 17-02- US 5683450 A 04-11- US 5683450 A 04-11- US 5683450 A 04-11- US 5916263 A 29-06-	
JP 10328215 A 15-12- JP 10328216 A 15-12- US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	1-199
JP 10328216 A 15-12- US 5906641 A 25-05- EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	2-199
US 5906641 A 25-05-  EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5693086 A 02-12- US 5693086 A 02-12- US 5716365 A 10-02- US 5693086 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5683450 A 04-11- US 5916263 A 29-06-	2-199
EP 0783873 A 16-07-1997 US 5609627 A 11-03- DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5693086 A 02-12- US 5693086 A 02-12- US 5716365 A 10-02- US 576180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5683450 A 04-11- US 5916263 A 29-06-	2-199
DE 29521548 U 10-07- DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 576180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	5-199
DE 29521776 U 27-08- DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 576180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-199
DE 29522113 U 07-10- EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5693086 A 02-12- US 5706180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	7-199
EP 0782841 A 09-07- EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5706180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-199
EP 0783874 A 16-07- AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	)-199
AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	7-199
AU 693527 B 02-07- AU 1870995 A 29-08- AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	7-199
AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 571655 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	7-199
AU 3224599 A 05-08- AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 571655 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-199
AU 6381598 A 18-06- AU 6381698 A 18-06- CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-199
CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	5-199
CA 2182982 A 17-08- EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	5-199
EP 0759729 A 05-03- JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	3-199
JP 9511160 T 11-11- W0 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
WO 9521592 A 17-08- US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5716365 A 10-02- US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5693086 A 02-12- US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5776180 A 07-07- US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5800508 A 01-09- US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5718724 A 17-02- US 5683450 A 04-11- US 5916263 A 29-06-	
US 5683450 A 04-11- US 5916263 A 29-06-	
US 5916263 A 29-06	
** **===== **	
03 3350030 A 17 00	

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82